

FIRST AMENDMENT AND RESPONSE
U.S.S.N. 10/754,456
Attorney Docket No. 13139-0104 (13721.105006)

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REMARKS

After entry of the amendments, Claims 1-4, 7, 13-18, and 20-21 remain pending in this application. Claims 2-4, 7, and 13-15 were previously presented. Claims 1, 16-18, and 20 have been amended. Claim 21 has been added to further claim the invention throughout its scope. Claims 5, 6, 8-12, and 19 have been canceled. Support for these amendments is as follows:

Claim 1: Page 7, lines 10-19; page 8, lines 24-32; page 14, lines 10-11; page 21, lines 30-35; and page 22, lines 1-19, of the application as originally filed.

Claim 16: Page 17, lines 5-20, of the application as originally filed.

Claim 17: Page 8, lines 10-12; page 15, lines 27-35; and page 16, lines 1-11, of the application as originally filed.

Claim 18: Page 17, lines 5-20, of the application as originally filed.

Claim 20: Page 14, lines 10-11 and page 23, lines 1-15, of the application as originally filed.

No new matter has been added as a result of these amendments. Entry of these amendments is respectfully requested.

Claim Rejections under 35 U.S.C. §112, second paragraph

The Examiner has rejected Claims 1-20 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection as it applies to the amended claims.

Applicant further submits Claims 5-6, 8-12, and 19 have been canceled herein. Accordingly, the rejection of Claims 5-6, 8-12, and 19 is moot.

Independent Claim 1, dependent Claims 16-18, and independent Claim 20 have been amended to particularly point out and distinctly claim the subject matter which Applicant regards as the invention in compliance with 35 U.S.C. §112, second paragraph. Accordingly, Applicant respectfully requests withdrawal of this rejection.

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Claim Rejection under 35 U.S.C. §112, first paragraph

The Examiner has rejected Claim 20 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. Applicant respectfully traverses the rejection as it applies to amended claim 20.

As described on page 2 of the present Office Action, the Examiner finds that "[t]he claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention." Specifically, the Examiner contends that the Applicant has not described "or an immunological equivalent thereof". This term has been deleted from claim 20 and therefore the Applicant believes that amended Claim 20 satisfies the written description requirement. Withdrawal of this rejection is respectfully requested.

Priority Claim

The Examiner asserts that the instant claims are not entitled to the benefit of the earliest priority date, and are only are entitled to the benefit of the instant filing date January 9, 2004. Applicants respectfully traverse. The claimed concepts of administering an immunity linker comprising a first binding site and a second binding site of an aptamer nucleic acid to increase an immune response are fully disclosed in the priority application 10/178,046 filed as PCT/US00/35179 on December 21, 2000. One of ordinary skill would clearly understand that the Applicant was in possession of the claimed methods and related concepts as of the earliest priority date.

Support for the claims in their current form is found in parent application 10/178,046 at least at the following pages. Since the claimed methods are fully supported by the Applicant's priority document, the Applicant respectfully requests acknowledgement of the earliest claim to priority for examination.

PRESENT CLAIM	SUPPORT IN 10/178,046
1. A method of increasing an immune response to a target in an individual comprising	page 8, lines 14-17
administering to the individual an effective	page 3, line 7

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amount of a composition comprising one or more immunity linkers	
wherein the immunity linkers comprise at least one first binding site and at least one second binding site,	page 3, lines 8-14, 22-26
wherein the second binding site is an aptamer nucleic acid,	p7, lines 21-27, 33-34
wherein the second binding site binds to the target,	page 5, lines 19-20
wherein the individual has a pre-existing immune response to the first binding site,	page 4, lines 9-14 page 5, lines 29-33
and wherein the immune response is selected from a cellular immune response, a humoral immune response, and an innate immune response.	page 1, line 29 page 1, lines 21-22 page 6, lines 4-12 page 8, lines 14-17
20. A method of increasing a humoral immune response to a target in an individual comprising	page 8, lines 14-17
administering to the individual an effective amount of a composition comprising one or more immunity linkers	page 3, line 7
wherein the immunity linkers comprise at least one first binding site and at least one second binding site,	page 3, lines 8-14, 22-26
wherein the second binding site is an aptamer nucleic acid,	page 7, lines 21-27, 33-34
wherein the second binding site binds to the target,	page 5, lines 19-20
and wherein the target normally elicits a cellular immune response in that or another	page 1, line 29-32 page 1, lines 21-22

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individual.	page 6, lines 4-12 page 8, lines 14-17
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Claim Rejections under 35 U.S.C. §102(b)

1. The Examiner has rejected Claims 1-2, 4-5, 7, 13, and 15 under 35 U.S.C. §102(b) as anticipated by the Sallberg patent (U.S. Patent No. 5,869,232, "Sallberg"). Applicant respectfully submits amended independent Claim 1 overcomes the rejection. The Applicant respectfully submits that Sallberg does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Sallberg fails to teach or suggest an immunity linker comprising an aptamer nucleic acid binding site. Rather, Sallberg is directed to an antigen/antibody specificity exchanger "which is selected from the group consisting of a direct peptide bond and spacer molecules" such as "a covalent or a biotin-avidin-biotin link." (Col. 2, lines 31-35, and independent Claims 12 and 15, respectively).

Applicant further submits Claim 5 has been canceled herein. Accordingly, the rejection of Claim 5 is moot.

Since Sallberg does not teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed methods. Withdrawal of this rejection is respectfully requested.

2. The Examiner has rejected Claims 1-2, 13, and 15 under 35 U.S.C. §102(b) as anticipated by the Krsmanovic et al. patent (U.S. Patent No. 5,378,815, "Krsmanovic"). Applicant respectfully submits amended independent Claim 1 overcomes the rejection. The Applicant respectfully submits that Krsmanovic does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Krsmanovic fails to teach or suggest an immunity linker comprising an aptamer nucleic acid binding site. Rather, Krsmanovic is directed to protein:protein conjugation of an immunogenic sensitizing agent (e.g., any immunogenic molecule with the necessary properties set forth in Krsmanovic Col. 3, lines 3-27) to a targeting agent (e.g., chicken autocrine differentiation-inhibiting factor). (Col. 2, lines 60-68; Col. 3, lines 1-30; Col. 4, lines 26-27; Col. 7, lines 14-15; and Figure 1).

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Krsmanovic does not teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed invention. Withdrawal of this rejection is respectfully requested.

3. The Examiner has rejected Claims 1-2, 5-7, and 13-16 under 35 U.S.C. §102(b) as anticipated by the Cowan PCT publication (International Publication No. WO 01/32207, "Cowan"). Applicant respectfully submits amended independent Claim 1 overcomes the rejection. The Applicant respectfully submits that Cowan does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Cowan fails to teach or suggest an immunity linker comprising an aptamer nucleic acid binding site. Rather, Cowan is directed to a hapten-ligand conjugate that "functions to provide binding sites of the appropriate types so that presensitized immune cells can bind with the target antigen complex." (page 6, para. 2, and independent Claims 1 and 7).

Applicant further submits Claims 5 and 6 have been canceled herein. Accordingly, the rejection of Claims 5 and 6 is moot.

Cowan does not teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed methods. Withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. §102(a) or (e)

The Examiner has rejected Claims 1-3, 5, and 13-14 under 35 U.S.C. §102(a) or (e) as anticipated by the Marinkovich patent publication (U.S. Patent Application Publication No. 2003/0108555, "Marinkovich"). Applicant respectfully submits amended independent Claim 1 overcomes the rejection. The Applicant respectfully submits that Marinkovich does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Marinkovich fails to teach or suggest an immunity linker comprising an aptamer nucleic acid binding site. Rather, Marinkovich is directed to "the [EDC] conjugation of antigens, including viruses, to monoclonal antibodies and the [EDC] conjugation of antigens to viruses." (Page 4, para. [0061], and page 4, para. [0062]-[0064], and independent Claim 1).

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Applicant further submits Claim 5 has been canceled herein. Accordingly, the rejection of Claim 5 is moot.

Marinkovich fails to teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed methods. Withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. §102(b) or (e)

1. The Examiner has rejected Claims 1-7 and 12-19 under 35 U.S.C. §102(b) or (e) as anticipated by the Pouletty patent publication (U.S. Patent Application Publication No. 2006/0002891, "Pouletty"). Applicant respectfully submits amended independent Claim 1 overcomes the rejection. The Applicant respectfully submits that Pouletty does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Pouletty fails to teach or suggest an immunity linker comprising an aptamer nucleic acid binding site. Rather, Pouletty is directed to "complexines," conjugates comprising an endogenous effector agent (such as, according to the Examiner on page 6 of the present Non-Final Office Action, "an antigen to which ... the host has previously formed antibodies or T-cells") and a target epitope (such as, according to the Examiner on page 6 of the present Non-Final Office Action, "a ligand for a cell surface receptor or an antibody of Fab fragment ... directed to a cell surface receptor") for modulation of a target cell. (Page 2, para. [0018]-[0019]).

Applicant further submits Claims 5, 6, 12, and 19 have been canceled herein. Accordingly, the rejection of Claims 5, 6, 12, and 19 is moot.

Pouletty does not teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed methods. Withdrawal of this rejection is respectfully requested.

2. The Examiner has rejected Claims 1-2, 4-7, and 12-15 under 35 U.S.C. §102(b) or (e) as anticipated by the Low et al. patent (U.S. Patent No. 7,033,594, "Low"). Since Applicant's priority date predates Low, this reference is not prior art for the instant claims. Furthermore, the Applicant respectfully submits amended independent Claim 1 overcomes the rejection even in the absence of the priority claim. The Applicant respectfully submits that Low

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does not teach or suggest each and every recitation of amended independent Claim 1. Specifically, Low fails to teach or suggest an immunity linker comprising a second binding site comprising an aptamer nucleic acid that is conjugated to a first binding site to increase an immune response in an individual. Therefore, Low does not teach or suggest each and every recitation of amended independent Claim 1, and therefore fails to anticipate the claimed methods.

Applicant further submits Claims 5, 6, and 12 have been canceled herein. Accordingly, the rejection of Claims 5, 6, and 12 is moot. Withdrawal of this rejection is respectfully requested.

Claim Rejections under 35 U.S.C. §103(a)

The Examiner has rejected Claims 1 and 18-19 under 35 U.S.C. §103(a) as obvious over the Markinvoch, Pouletty, Low, or Cowan in view of the Rhodes patent (U.S. Patent No. 4,940,670) (hereinafter '670).

Markinvoch, Pouletty, Low, or Cowan have been discussed above as they apply to the amended claims. As discussed above, Low is not prior art because the priority date predates this reference. The Applicant respectfully submits that these references in combination fails to render obvious the claimed invention because they do not teach or suggest each and every recitation of amended independent Claim 1. Rhodes fails to make up for these deficiencies, therefore, the prior art alone, or in combination, fails to teach or suggest the claimed invention directed to an immunity linker comprising an aptamer nucleic acid binding site and a binding site for a universal immunogen.

Furthermore, the combined references fail to provide any suggestion or motivation to utilize an immunity linker comprising an aptamer nucleic acid binding site as claimed.

Applicant further submits Claim 19 has been canceled herein. Accordingly, the rejection of Claim 19 is moot.

Applicant respectfully submits the claimed invention as amended is non-obvious over the prior art and respectfully requests withdrawal of this rejection.

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Double Patenting

1. The Examiner has provisionally rejected Claims 1-13 and 15-19 on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claims 8 and 10-13 of copending U.S. Patent Application No. 10/178,046 (hereinafter '046).

Applicant respectfully submits that '046 became abandoned on December 1, 2006 and, therefore, is no longer copending with the present application. Therefore, the provisional rejection of Claims 1-13 and 15-19 on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claims 8 and 10-13 of '046 is moot.

2. The Examiner has provisionally rejected Claims 1-19 on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claims 1-17 of copending U.S. Patent Application No. 10/696,770 (hereinafter '770).

Applicant respectfully submits that the present amendment to independent Claim 1 overcomes this rejection and the '770 claimed subject matter does not encompass that of amended independent Claim 1. Withdrawal of this rejection is respectfully requested.

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CONCLUSION

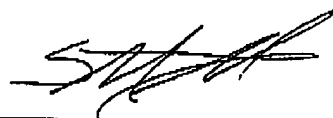
Applicant submits the foregoing as a full and complete response to the Non-Final Office Action mailed on September 8, 2006. The Applicant and the undersigned respectfully submits that the present application is in condition for allowance. Such action is hereby courteously solicited.

If the Examiner believes there are other issues that may be resolved by telephone interview, or that there are any informalities remaining in the application that may be corrected by Examiner's Amendment, a telephone call to the undersigned is respectfully requested.

Other than the fee to accompany the petition for a three-month extension of time, no additional fees are believed to be due in connection with this response. However, should the Commissioner determine otherwise, the Applicant hereby authorizes the Commissioner to charge such fees and credit any overpayment to Deposit Account No. 11-0980.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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